

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/38950

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C12Q 1/68; C12N 15/63  
US CL : 435/6, 455

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/6, 455

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST, CAPplus, Medline, Embase, Biosis

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|------------|---|-----------------------|
| X          | Mansell, A. et al. "The serine protease inhibitor antithrombin III inhibits LPS-mediated NF-kappaB activation by TLR-4", November 2001, FEBS letters, Vol. 508: pp.313-317.   | 1                     |
| X          | Yoshimura, A. et al. "Lipopolysaccharides from Periodontopathic Bacteria Porphyromonas gingivalis and Capnocytophaga achracea Are Antagonists for Human Toll-Like Receptor 4", Jan. 2002, Vol. 70: pp. 218-225.                   | 1.                    |
| X, P       | Ohta, S. "Identification of a novel isoform of MD-2 that downregulates lipopolysaccharide signaling", November 2004, Biochem. Biophys. Res. Comm., Vol. 323: pp.1103-1108.  | 1, 4, 5-6.            |
| X          | Su, B. et al., "Helicobacter pylori Activates Toll-Like Receptor 4 Expression in Gastrointestinal Epithelial Cells", June 2003, Infec. Immun., Vol. 71: pp. 3496-3502.  | 1, 8.                 |
| X          | Hatakeyama, J. "Contracting responses of human gingival and periodontal ligament fibroblasts to bacterial cell-surface components through the CD14/Toll-like receptor system", Feb. 2003, Oral Micro. Immun., Vol. 18: pp. 14-23. | 1, 8.                 |
| X          | WO 03/035110 A1 (Arditi et al) 1 May 2003 (1.05.2003), pages 5-8.   | 1-6, 8.               |
| X,P        | WO 2004/093778 (Cohen et al) 4 November 2004 (04.11.2004), see entire document, especially pages 4-9.   | 1-4                   |

Further documents are listed in the continuation of Box C.

See patent family annex.

|   |     |  |
|---|-----|--|
| • Special categories of cited documents:  | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| "A" document defining the general state of the art which is not considered to be of particular relevance  | "X" | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
| "E" earlier application or patent published on or after the international filing date   | "Y" | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
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| "O" document referring to an oral disclosure, use, exhibition or other means  |     |  |
| "P" document published prior to the international filing date but later than the priority date claimed  |     |  |

Date of the actual completion of the international search

19 March 2005 (19.03.2005)

Date of mailing of the international search report

01 APR 2005

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**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/US04/38950**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A          | US 6,740,487 B1 (Schwartz et al) 25 May 2004 (25.05.2004)                          | 1-17                  |